C-4

EPA General Permit WAG130000 - Annual Report

Annual Report of Operations for Year 2019

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:

WAG - 130023

RECEIVED
JAN 27 2020
EPA - REGION 10
Enforcement & Compliance Assurance Division

Facility & Owner Information

Facility Name:
House of Salmon

Operator Name (Permittee):
Lower Elwha Klallam Tribe

Address:
700 Stratton Road
Port Angeles WA 98363

Email:
john.mahan@elwha.org

Phone:
360-565-7270

Owner Name (if different from operator):

Email:

Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

The BMP is currently being updated to ensure it complies with all requirements.

ICIS 2/3/2020 JM

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 38,876 lbs Pounds of food fed to fish during the maximum month: 5,884.23 pounds March

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
Chum	54 lbs	Elwha River	May
Steelhead	15,422 lbs	Elwha River	April
Coho	23,401 lbs	Elwha River	April

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	26,175.73	4,048.20	July	4,926.97	1,263.86
February	31,322.38	4,523.51	August	7,482.66	1,750.35
March	39,946.25	5,884.23	September	10,004.08	2,109.33
April	1,513.96	498.92	October	12,612.95	3,111.45
May	2,298.40	744.50	November	16,472.38	2,487.82
June	3,534.22	847.56	December	18,741.55	2,691.94

Additional Comments:

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed

Additional Comments:

Routine fish mortalities were disposed of daily in municipal waste.

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish

Additional Comments:

No mass mortalities occurred

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

No non compliance events occurred.

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily		The facility is inspected daily

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ▣ No	Azithromycin
☐ Yes ▣ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ▣ No	Chlorine
☐ Yes ▣ No	Draxxin
☐ Yes ▣ No	Erythromycin - injectable
☐ Yes ▣ No	Erythromycin - medicated feed
☐ Yes ▣ No	Florfenicol (Aquaflor)
☐ Yes ▣ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ▣ No	Herbicide - describe:
☐ Yes ▣ No	Hormone - describe:
▣ Yes ☐ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
▣ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☐ Yes ▣ No	Oxytetracycline
☐ Yes ▣ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ▣ No	Romet
☐ Yes ▣ No	SLICE (emamectin benzoate)
▣ Yes ☐ No	Sodium Chloride - salt
☐ Yes ▣ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Perox-Aid		Generic Name: Hydrogen Peroxide	
Reason for use: treatment of external parasite			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units) 0.828 gallons	Total quantity of formulated product used in past year (specify units): 3.312 gallons	
Date(s) of treatment: 2/6/19, 2/7/19			Total number of treatments in past year: 4
Maximum daily volume of treated water: 16,560 gallons	Treatment concentration (specify units): 50 ppm	Duration and frequency of treatment(s): 1 per unit, 4 units, 2 hours each	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name: Ovadine (iodophor)		Generic Name:	
Reason for use: egg disinfection			
■ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment: 75 ml	Total quantity of formulated product used in past year (specify units): 4.55 gallons	
Date(s) of treatment: See ovadine treatment dates attached			Total number of treatments in past year: 230
Maximum daily volume of treated water: 111.8 gallons	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): 1 hour once	
Method of application:	■ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Salt		Generic Name: Salt	
Reason for use: Bacterial pathogen			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units): 150 lbs	Total quantity of formulated product used in past year (specify units): 4,900 lbs	
Date(s) of treatment: 11/4/19-11/14/19			Total number of treatments in past year: 44
Maximum daily volume of treated water: 432,000 gallons	Treatment concentration (specify units): 150 lbs/150 gpm	Duration and frequency of treatment(s): 12 hours daily for 11 days	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name:		Generic Name:	
Reason for use:			
☐ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments Iodine	
Tank Volume	423 Liters
Desired Static Bath Treatment Concentration	75 ppm µg/L
Volume of Product Needed	3.225 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 1.06 ppm Active Ingredient: .106 ppm Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	5,040,000gallons Specify Units
Maximum % of Facility Discharge Treated	0.6 % of Total Discharge

Flow-Through Treatments H_2O_2	
Tank Volume	63,164 Liters
Calculated Flow Rate	522.33 Liters/Minute
Duration of Treatment	120 Minutes
Desired Flow-Through Treatment Concentration of Product	50 ppm µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	26 mL/Minute
Total Volume of Product Needed	3.134 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 0.93ppm Active Ingredient: 0.325ppm Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	10,656,000 gallons Specify Units
Maximum % of Facility Discharge Treated	7 % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

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Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments Salt	
Tank Volume	63,164.08 Liters
Calculated Flow Rate	568 Liters/Minute
Duration of Treatment	720 Minutes
Desired Flow-Through Treatment Concentration of Product	1 pound per gpm µg/L
Amount of Product to Add Initially	150 pounds Liters Product
Amount of Product to Add During Treatment	0 mL/Minute
Total Volume of Product Needed	150 pounds Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: .00006 pounds/gallon Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	5,040,000 gallons Specify Units
Maximum % of Facility Discharge Treated	16 % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

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- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments	
Tank Volume	Liters
Calculated Flow Rate	Liters/Minute
Duration of Treatment	Minutes
Desired Flow-Through Treatment Concentration of Product	µg/L
Amount of Product to Add Initially	Liters Product
Amount of Product to Add During Treatment	mL/Minute
Total Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
No Changes

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John Mahan	Hatchery Manager
Printed name of person signing	Title
	1-22-20
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140

Iodophor use dates

steelhead	4/10/2019
	4/16/2019
	4/23/2019
	4/30/2019
	5/7/2019
	5/8/2019
	5/14/2019
	5/22/2019
	5/24/2019
	5/29/2019
	6/5/2019
coho	10/10/2019
	10/16/2019
	10/23/2019
	10/30/2019
	11/6/2019
	11/13/2019
	11/20/2019
	11/26/2019
	12/4/2019
chum	11/4/2019
	11/7/2019
	11/12/2019
	11/15/2019
	11/19/2019

2019 H2O2 max discharge calculations

Facility flow	7,400.00	gpm
Facility flow	10,656,000.00	gpd
Tank Volume L	63,164.08	
Unit Flow gpm	138.00	
Unit flow L/min	522.33	
Duration Min	120	
Desired concentration	50	ppm
Amount added initially	0	
Amount during treatment	26	ml/minute
Total product needed	3.134	
Max effluent solution	1,077,269	parts water/parts h2o2
Max effluent solution	0.93	ppm
Max effluent active ingredient	0.324895569	ppm
Maximum volume of total discharge	10,656,000.00	
Maximum % of facility discharge treated	7%	

2019 iodophor max concentration

	Number Spawn Days	Number of Incs Green Eggs			
Steelhead	11	32			
Coho	9	183			
Chum	5	15			3.785
Total	25	230			
			ml iodophore/inc		75
			total iodophor	17250	ml
				17.25	L
				4.557464	gallons

Max discharge	ml iodophor/inc	#incs discharging at once		
	75	43	3225	ml
			804,616.12000000	gallons in the system
			0.85204756	gallons iodophore
	1	to	944,332.40750388	
		ppm	1.05894915	
	10	% iodine	0.10589491	max concentration iodine ppm

Maximum % of discharge treated

21	gpm treated incubation water
3,500	gpm facility flow
0.6	Maximum % of discharge treated

inc volume	
2.6	gallons
111.8	gallons water treated/ treatment
423.163	liters water treated/treatment

2019 Salt

Date	bags	weight	cumulative
11/4/2019	12	600	600
11/5/2019	12	600	1,200
11/6/2019	9	450	1,650
11/7/2019	9	450	2,100
11/8/2019	9	450	2,550
11/9/2019	9	450	3,000
11/10/2019	9	450	3,450
11/11/2019	9	450	3,900
11/12/2019	9	450	4,350
11/13/2019	9	450	4,800
11/14/2019	2	100	4,900

	per rw		total 4 rws
Tank Volume	16,688	gallons	66,752
Flow	150	gpm	600
Time	12	hours	12

facility flow	11,360	gpm
	16,358,400	
max daily volume of treated water	432,000	

Salt

Facility flow	3,500.00	gpm
Facility flow	5,040,000.00	gpd
Tank Volume L	63,164.08	
Unit Flow gpm	150.00	
Unit flow L/min	567.75	
Duration Min	720	
Desired concentration	1	pound per gpm
Amount added initially	150	pounds
Amount during treatment	0	ml/minute
Total product needed	150	pounds
Max effluent solution	0.000060	pounds/gallon water
Max effluent solution		
Max effluent active ingredient	0.000060	
Maximum volume of total discharge	5,040,000.00	
Maximum % of facility discharge treated	16%	